

Two Cases of Hand, Foot, and Mouth Disease Involving the Scalp

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Hand, foot, and mouth disease (HFMD), as the name indicates, affects the hands, feet and mouth, with haemorrhagic and papulo-vesicular lesions (1).

HFMD is generally a mild and self-limited disease caused by enteroviruses, primarily strains of coxsackieviruses, A10 and A16, and enterovirus 71. Enteroviruses are small, non-enveloped, single-stranded RNA viruses that belong to the family *Picornaviridae* (2).

HFMD is a highly contagious disease occurring most commonly in children below the age of 5 years (1, 3). Small epidemics of HFMDs are seen in nursery schools or kindergartens, usually during the summer and autumn months. Several major outbreaks have been described throughout the world, especially in Asia (2, 4).

We describe here 2 cases of HFMD in adults. In addition to presenting typical lesions on the hands and feet, both cases had involvement of the scalp, which is unusual, and no lesions in the oral mucosa where lesions are most commonly found.

CASE REPORTS

Case 1

A 49-year-old man with a 2-day history of multiple painful haemorrhagic papules and vesicles in the palms, soles, face and scalp (Fig. 1). The oral cavity was spared. Two days prior to the cutaneous lesions the patient had had fever and malaise. The patient denied known exposure to HFMD. His medical history included diabetes type II and hypertension.

Laboratory findings revealed increased C-reactive protein, 56 mg/l (normal limits: <5 mg/l), and a complete blood count within normal limits. Enterovirus RNA was detected by real-time PCR, and coxsackievirus A6 (CV A6) subtype was identified by semi-nested reverse transcriptase (RT) PCR and sequencing. Histological examination from a 3-mm punch biopsy of another vesicle was consistent with post-viral dermatosis, confirming the diagnosis of HFMD.

Case 2

A 37-year-old woman presented with multiple vesicles on the palms, soles, scalp and genital area. The oral cavity was not affected. She had a history of a fever and sore throat 2 days prior to the skin lesions. There had recently been an outbreak of HFMD in her child's kindergarten. She had no past history of medical problems.



Fig. 1. The scalp of patient 1 showing several papules and vesicles.

A widespread vesicular eruption on the scalp was initially interpreted as secondary bacterial infection and the patient was treated with oral antibiotics. No pathogenic bacteria were cultivated from a swab specimen.

Histological examination of a 3-mm punch biopsy suggested an enterovirus infection, and enterovirus RNA was identified in vesicular fluid by real-time PCR. The subtype CV A6 was subsequently identified by sequencing the semi-nested RT-PCR product.

DISCUSSION

These 2 cases are not typical presentations of HFMD. Firstly, the causative agent was CV A6, a virus that recently has only been associated with HFMD in Scandinavia (5, 6). Secondly, the location of the cutaneous lesions to the scalp has to our knowledge not been described previously in HFMD.

Oral lesions are the most common anatomical location, followed by the hands and feet. Patients do not need to have manifestations in all 3 areas to be classified as having HFMD. Cases with symptoms elsewhere, primarily on the buttocks and limbs, have also been

described (1, 3, 4, 7). Other typical clinical findings are fever, malaise, abdominal pain and upper respiratory tract symptoms (1, 4, 8, 9).

CV A6 is not one of the usual causes of HFMD; the serotype is more often associated with herpangina, in which the ulcerative lesions are predominantly located on posterior oropharyngeal structures (1, 3, 4). Single cases of both immunocompetent and immunocompromised adults with HFMD caused by CV A6 have been described (3, 11, 12). Furthermore, within the last 2 years outbreaks of HFMD caused by CV A6 have been reported in the USA, Japan and Europe (5–7, 9, 10). McIntyre et al. (10) found that 24% of their patients were adults, of whom the majority had had a record of exposure to a childcare facility or school.

HFMD spreads through contact with saliva, respiratory secretions, fluid in vesicles, and faeces. Hygiene precautions are important to reduce transmission. For diagnosis of enterovirus the timesaving and sensitive PCR technique is preferred to viral culture (2, 8).

Differential diagnosis of HFMD in the 2 cases described here included drug eruptions, erythema multiforme, vasculitis, dermatitis, bacterial infections, herpes, and varicella. Awareness, that papulo-vesicular scalp lesions may be part of the clinical presentation of HFMD might improve future diagnosis and surveillance of HFMD.

The authors declare no conflicts of interest.

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